

Carlsbad Beaches ... Our Natural Treasure

This brochure has been prepared by the Carlsbad Beach Preservation Committee. The Committee is comprised of Carlsbad citizens appointed by the City Council to study and advise the Council on matters related to the protection and enhancement of the Carlsbad shoreline. Open Committee meetings are held at 4 pm on the second Tuesday of each month at the Carlsbad Faraday Center, Room 173 A. For information, please contact staff liaison Steven Jantz, Associate Engineer, at (760) 602-2738 or sjantz@ci.carlsbad.ca.us.

For Further Information

To ascertain local beach water quality: www.earth911.org

To obtain "10 Simple Ways You Can Help Protect The Ocean" brochure: Encina Wastewater Authority, www.encinajpa.com

To learn more about being a good environmental neighbor: City of Carlsbad Environmental Programs, www.carlsbadconserves.org

To report storm water violations: City of Carlsbad Storm Water Hotline, (760) 602-2799

To learn more about local beaches: City of Carlsbad, www.carlsbadca.gov

California Coastal Commission, www.coastal.ca.gov

San Diego Association of Governments, www.sandag.org

Scrips Institution of Oceanography, www.scripps.ucsd.edu



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Carlsbad, CA 92008
www.carlsbadca.gov



Some photography courtesy of Ed Andrews and Bobbie Lockhart.



Carlsbad Beaches ... Our Natural Treasure

Life in Carlsbad Truly is a Beach

"The seashore is a rare and important part of the quality of life in San Diego County."

*Frank Aleshire,
Former Carlsbad
City Manager*

One of Carlsbad's most priceless treasures is not encased behind glass in a museum. It is outdoors on display; accessible to everyone, every day.

This natural treasure is the beach. Carlsbad's six-plus miles of beaches have been enjoyed for centuries. They will endure for perpetuity.

Or will they?

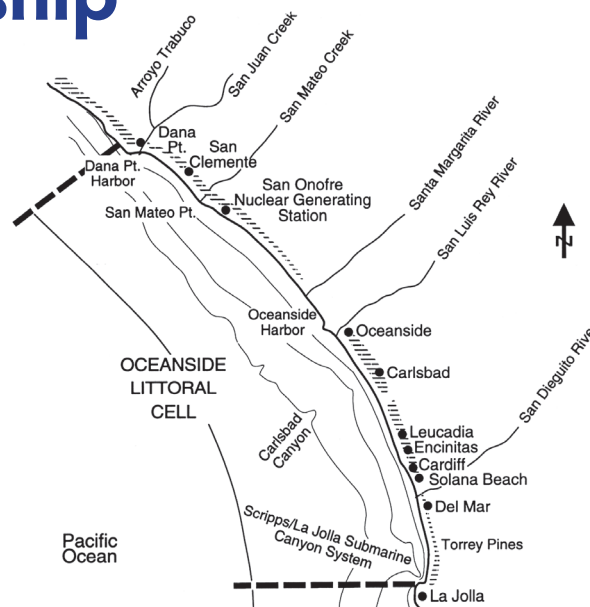
This brochure provides an overview of Carlsbad's precious coastal resource. It: 1) explains the dynamics of sand and the need for replenishment and retention; 2) explores the economic impacts of the beach; 3) describes current multi-agency efforts; and 4) provides a perspective of each individual's role as a stakeholder in the protection and preservation of what many residents believe is the best thing about living in Carlsbad.

Beaches 101: Ownership

Sand knows no boundaries. What are commonly referred to as Carlsbad beaches extend north to Dana Point and south to the Scripps/La Jolla Submarine Canyon as part of the Oceanside Littoral Cell.

Littoral cells are self-contained compartments, typically featuring a rocky headland upcoast and a submarine canyon downcoast. Sand entering the cell from rivers, streams and bluff erosion drains to the shoreline and is transported by littoral drift along the shore until it is lost into the head of the offshore submarine canyon. Sand in the Oceanside Littoral Cell primarily derives from the Santa Margarita, San Luis Rey and San Dieguito rivers.

Our beaches are part of
Carlsbad's community identity.



"The beach is where the ocean meets the sand meets the air."

*Eric Muñoz,
President,
Agua Hedionda
Lagoon Foundation*

Who Owns the Beach?

That simple question has a complex answer. The City of Carlsbad does not own the beach, although it has select jurisdiction: from the high tide line inland. The State of California owns and manages the beach, from the high tide line seaward.

Regardless of ownership, our beaches are part of Carlsbad's

community identity. They are what originally drew many residents to Carlsbad, what continue to provide widespread enjoyment and what attract significant tourism dollars.

That money funds City programs and services, positively impacting the entire community's quality of life.



A Moving Story: Sand

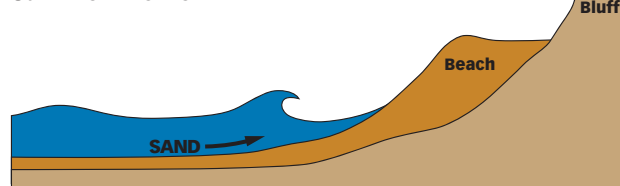
After moving westward from rivers and bluff erosion, the sand deposited on Carlsbad's portion of the Oceanside Littoral Cell remains in motion. It travels north to south and south to north in sync with changing currents and seasons. It travels back and forth between shallow water and shoreline via the changing tide.

A Narrow Vision Resulted in Narrower Beaches

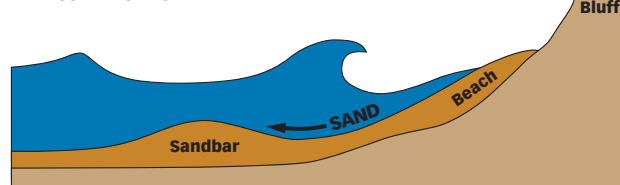
Over thousands of years, the rising sea has narrowed beaches. This extremely slow process of beach erosion has been hastened by man through dams, development, sand mining, seawalls and the concrete lining of rivers. Sediment that once washed to the coast from floods has been trapped behind dams and seawalls, narrowing the beach.

Ins and Outs of Sand

Summer Profile



Winter Profile



The summer (swell) profile of lower-height waves and longer wavelengths yields a broader beach. The opposite winter (storm) profile transports sand onto offshore bars where it seemingly "disappears," only to return the following summer in nature's never-ending sand cycle.

Today: A Wider View, A Wider Beach

Sand is not inert. We cannot afford to be motionless, either. What time and man have injured can be healed through proactive efforts. Led by the City of Carlsbad and other agencies, coordinated projects have helped keep the sand level on Carlsbad beaches relatively stable over recent years.

"Wide, sandy beaches are not usually a natural feature of Southern California. The beaches will be narrower and rockier in the future unless people and governments continue to take action."

*Chuck Colgan,
Scripps Institution
of Oceanography*

"We must make sand retention a priority."

*Pam Slater-Price,
San Diego County
3rd District
Supervisor*



The Carlsbad Beach To-Do List: Replenish, Retain, Nourish

Local Dredging

- As a follow-up to the mid-1990s Batiquitos Lagoon Enhancement Program, the California Department of Fish & Game dredges Batiquitos Lagoon every two years, depositing tens of thousands of cubic yards of sand on Carlsbad beaches.
- Currently, NRG's Encina Power Plant dredges Aqua Hedionda Lagoon every two years, depositing up to 500,000 cubic yards of sand on Carlsbad beaches.
- The City of Oceanside dredges the Oceanside Harbor every year. A portion of the approximately 200,000 cubic yards of sand annually deposited on Oceanside beaches travels south to Carlsbad beaches.



Countywide Replenishment

- In 2001, the San Diego Association of Government's (SANDAG's) \$17 million Regional Beach Sand Project (RBSP), paid for by the U.S. Army Corps of Engineers, U.S. Navy and the California Department of Boating and Waterways, suctioned sand from offshore areas, depositing two million cubic yards of sand on 12 beaches countywide, including two beaches in Carlsbad.
- Carlsbad was a major recipient, receiving 400,000 cubic yards of beach-quality sand.
- The RBSP earned the 2003 American Coastal Coalition's "Top Restored Beach Award."
- A similar, large-scale RBSP is anticipated to take place in 2010.

Carlsbad Opportunistic Sand Nourishment Program

- The City of Carlsbad has embarked on aggressive efforts to obtain sand in the future.
- Multi-agency permits are in place, enabling the City to take advantage of beach-compatible materials dug up by developers and dredged from lagoons and rivers. The beach-quality sediment and sand can be transported from inland construction sites to the local beaches.
- This proactive approach, which seizes opportunities as they occur, is a form of recycling. Sediment that otherwise might go to a landfill is instead placed on Carlsbad beaches.
- Capturing sand from offshore areas also makes the most of resources by seizing opportunities to nourish beaches.

Carlsbad Beach Preservation Committee Strategies

- The Carlsbad Beach Preservation Committee continues to seek out and evaluate optimum ways to protect and enhance Carlsbad beaches.
- In addition to advising the Carlsbad City Council, the Committee has established positive working relationships in a liaison capacity with regional, State and Federal agencies, including SANDAG's Shoreline Preservation Working Group, the California Department of Parks and Recreation and the U.S. Army Corps of Engineers.
- By exploring and expanding partnerships with these and other agencies, the Committee monitors shoreline erosion and encourages/seeks funding for beach nourishment projects.
- The Committee also works to improve sand and water quality through pollution-abatement efforts.



"The City
Council will
work on
beach sand
replenishment
efforts."

Carlsbad
City Council
FY 2007-08 Goal #5

Coastal Perspectives: A Look at Economic and Environmental Impacts

Whether you swim, surf, fish or play in it, or simply admire the view as you travel along the coast, the ocean is part of Carlsbad, and part of Carlsbad's exceptional quality of life.



Indigenous Beauty

The restoration of bluffs using native plants minimizes erosion and supports habitat while surprising onlookers with bursts of color throughout the year.

As a tourist attraction, the beach generates sizable waves of economic benefits:

- According to the San Diego Convention and Visitor's Bureau, 15.8 million people were overnight visitors to San Diego County in 2006, up more than 10% from 14.3 million in 1997.
- Many of those tourists visited Carlsbad, staying in one of 3,343 hotel rooms. Carlsbad plans to add another 2,000 rooms over the next few years.
- In 2006, the City of Carlsbad received \$11.5 million in transient occupancy tax (TOT) revenues (up from \$3.8 million in 1997), dwarfing that of neighboring coastal communities and even popular inland casino resorts.

Tourism is a clean industry. Since most of the beach is operated by State Parks and Recreation, Carlsbad's cost for maintaining the beach is minimal. Meanwhile, beach-related tourism generates millions of dollars in revenue that funds an array of City programs, services and facilities. The beach also increases property values, employment and other economic activity, promoting an array of benefits to the entire community.

Sand Dollars

In 2005, the Carlsbad City Council, at the request of the Carlsbad Beach Preservation Committee, commissioned a study by beach economics expert, Philip King, Ph.D., to analyze and evaluate beach tourism during high season (June, July, August). The complete study can be found on the City's website at www.carlsbadca.gov.

Dr. King's results clearly reveal the importance of wide, sandy, clean beaches:

- Nearly 600,000 people visit Carlsbad beaches during high season.
- The typical beach visitor spends \$66/day.
- Beach visitors spend \$26.5 million annually.
- Fewer than 2 out of 10 beach visitors live in Carlsbad; 5 out of 10 live within 20 miles of the city.

- Beach cleanliness was rated as the most important amenity by 82% of respondents.
- Wide beaches were rated as very important by 43% of respondents.
- 58% of overnight visitors said the beach was a very important element of their trip.
- Most significantly, the study reveals that if Carlsbad beaches eroded 50%, making them half as wide, overall beach attendance would drop by 28%. That decrease, in addition to its environmental consequences, would have a significant fiscal impact on the economy of our City, resulting in an annual loss to City coffers of \$7.42 million.

If Carlsbad beaches eroded to half the current width, beach attendance would drop by 28%, decreasing the City's revenue by \$7.42 million per year.



"The beach is an irreplaceable asset, providing coastal protection for native wildlife, public infrastructure and private property."

Carlsbad Beach Preservation Committee

"To the citizens of Carlsbad and the tourists who visit the City, the beaches are one of the area's most valuable assets."

Philip King, Ph.D., Economics Chair, San Francisco State University

An Environment for All Creatures, Great and Small



The tidepools at Terramar beach brim with life: sea slugs, anemones, hermit crabs and an occasional starfish. Come and marvel, but don't disturb; leave these amazing creatures in their home, sweet Terramar home.

Beach sand nourishment helps protect and improve the habitat for many coastal animal species, including some of the 43 species on Carlsbad's Endangered Species List. Biological analysis conducted before and after the 2001 SANDAG RBSP showed a general improvement in the quantity of coastal wildlife such as gulls, terns, grunion, crustaceans, worms and mollusks. Beaches nourished with sand showed a greater incidence of bird use and an improved capacity to create adequate habitat for the region's diverse bird population.

But environmental impacts take a "tern" for the worse if water and beach quality is not maintained.

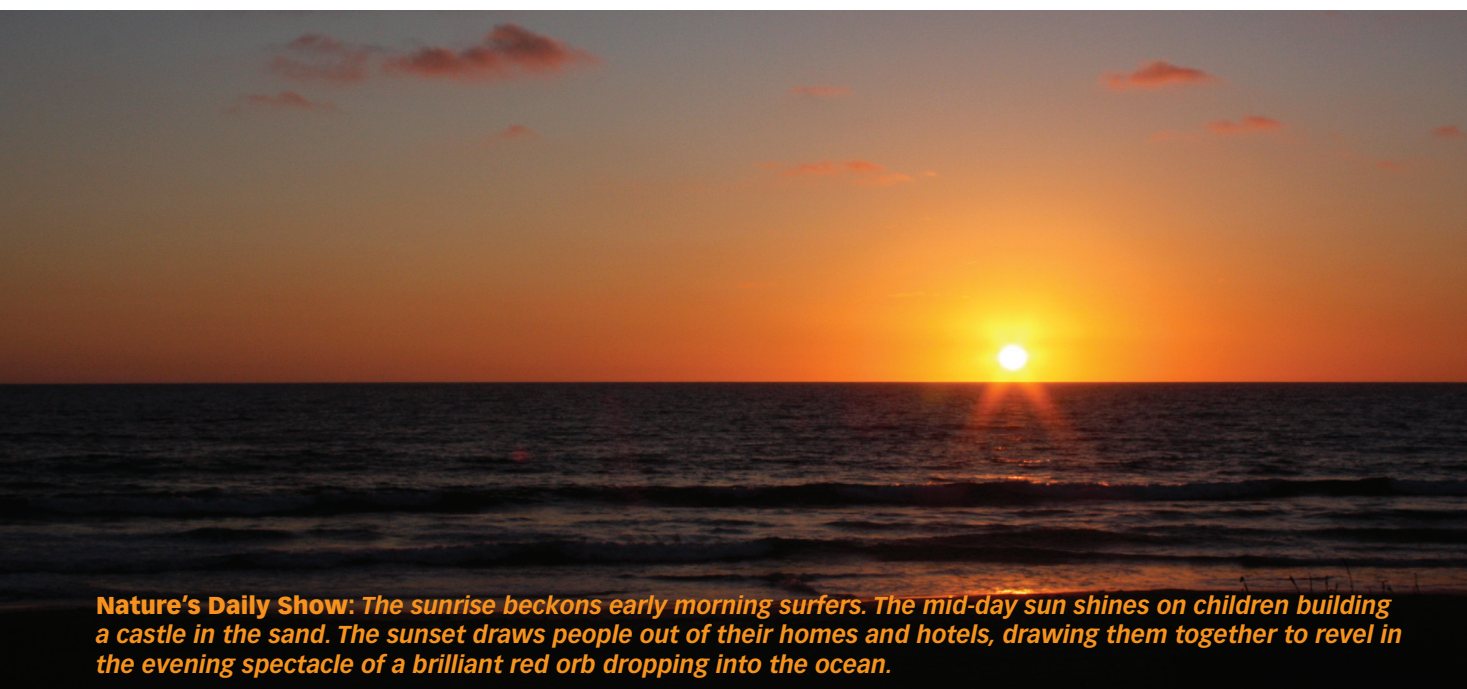
Wherever you live in Carlsbad, you live in a watershed in which not only rainwater but everything on the street flows into lagoons and the ocean. Just as what you do in your back yard affects your neighbors, everything we do in our Carlsbad "neighborhood" affects the larger environment.

By making simple choices – throwing pet waste in the trash, taking motor oil to a recycling site, using a broom not a hose to clean the driveway, choosing non-hazardous household alternatives, keeping pollutants out of storm drains and litter off our beaches – you make a big difference in protecting and preserving our coastal environment.



Carlsbad Beach
Preservation
Committee

"Enjoy the
beach, but
please leave
only your
footprints
behind."



Nature's Daily Show: *The sunrise beckons early morning surfers. The mid-day sun shines on children building a castle in the sand. The sunset draws people out of their homes and hotels, drawing them together to revel in the evening spectacle of a brilliant red orb dropping into the ocean.*

Stewardship: Whose Responsibility Is It?

Over time, beaches may erode, or narrow. They may advance, or widen. As a result of available sand remaining in or added to the littoral cell, they may stay in equilibrium.

We are at a key crossroads in Carlsbad beach history. Without continued replenishment, retention and nourishment efforts, sand will be lost, our beaches will narrow, private property will be at risk and tourism dollars – as well as the programs and services funded by those dollars – will greatly diminish.

Also diminishing would be something less tangible but no less significant: the human spirit.

Federal. State. Local. Yours. Mine. Ours.

This brochure began with a question: Who owns Carlsbad beaches? It ends with this answer: No one and everyone.

Each of us is a coastal stakeholder. Everyone who enjoys or profits from the beach is responsible for sustaining Carlsbad's natural treasure today, and for generations to come.

"Time and
tide wait for
no man."

Geoffrey Chaucer